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REMARKS

Claims 1-23 are pending in the present application. Claim 20 has been amended to correct an obvious typographical error. No new matter has been introduced by this amendment. Reconsideration and allowance of the claims is respectfully requested in view of the above amendment and the following remarks.

Objection to Claim 20

Claim 20 has been amended to replace the objected to typographical error in the degree symbol. Applicants submit that the amended claim 20 has overcome this objection.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1-23 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Ishida et al (U.S 5,571,854) in view of Berchem et al (U.S 4,098,770) and Waitkus et al (U.S 4,626,569).. Applicants respectfully traverse this rejection.

Applicant has developed the first economical and effective binder composition that uses a spray dried phenolic resole resin with a phenolic crystalline compound having two or more hydroxyphenyl groups which unexpectedly have good hot flow properties that allow it to be used in the preparation of molding composition without the need for the use of phenolic novolac resins and amine catalyst. Unlike the prior art composition such as that taught by Waitkus et al which relies upon the use of a "lump" phenolic resole resin that is prepared by a solid pan cooling method which produces a sticky agglomerated mass over a short period of time in storage due to inadequate moisture removal. Consequently the lump resin in Waitkus, which typical made with a formaldehyde to phenol mole ratio equal to approximately 1.25, is very difficult to produce and must be made in small batch due to the requirement for very rapid discharge of the hot molten resole resin from the reaction vessel. Moreover, Waitkus, requires that the lump resole resin be combined with a phenolic novolac resin and an amine catalyst to be able to achieve the necessary flow properties for a molding composition. The spray dried phenolic resole taught by applicant, can be produced in high volume commercial spray drying equipment using a formaldehyde to phenol mole ratio

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typically equal to about 2.0 and which when used with the crystalline phenolic compound will give good flow properties without the need for use of phenolic novolacs and amine catalyst.

The reference of Ishida et al discloses the conventional use of a phenolic novolac resin and a amine catalyst to make the composition thermosetting for use as a molding composition which also contains a crystalline phenolic composition with a Bisphenol compound or derivatives which contain three or four benzene rings. Ishada does not teach or suggest much less "imply" that the novolac resin which is required in forming the molding composition can be replaced by a phenolic resole resin, much less a spray dried resole resin, to give acceptable hot flow properties for use as a molding compositon when combined with a crystalline phenolic compound having two or more hydroxyphehnol groups as in the instant claimed invention.

The Examiner has relied upon the reference of Berchem et al to overcome the deficiency of Ishida to allegedly teach applicant novel use of a spray dried resole in a molding composition. Berchem et al discloses the conventional method of prepare commercial spray dried phenolic resins that have commercial utility when used in thermosetting adhesives for an entirely different use as an adhesive for waferboard, plywood, etc. This use for wood adhesive is very different from the use as a molding composition in Ishida. There is no teaching or suggestion in Berchem that a spray dried phenolic resole which has poor flow properties due to its high mole ratio of formaldehyde to phenol resin should be used in replacement of the novolac resin required in Ishida for a totally different and nonanalogous use in the art, much less suggest that the proposed replacement would result in acceptable flow properties contrary to the general understanding of those skilled in the art that the mole ratio of phenol to formaldehyde required for making spray-dried resoles would not give acceptable flow properties for molding compositions.

The Examiner has also sought to rely upon the teaching of Waitkus, as discussed above, to suggest the use of a spray dried phenolic resole resin in combination with the crystalline phenolic composition that applicant has unexpctedly found will impart acceptable flow properties to the resole resin for use as a molding composition. Waitkus

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teaches the manufacture and use of a very different "lump resole resin," which is much different in properties from the instant spray dried resole, and ____ only uses the ____ resole in conjunction with a conventional novolac resin and amine catalyst. Waitkus can not be said to teach or suggest the use of spray dried resole resin replacement for the novolac resin and catalyst in the molding composition of Isaida with a resole resin, much less a spray dried resole, without requiring a need for novolac resin to give the necessary flow properties. Waitkus always requires the use both of its lump resole resin with a novolac and amine to give an acceptable molding composition.

Applicant is the first to recognize that an economically and commercially produced spray dried phenolic resole resin, which has inherently poor flow properties due to its high phenol formaldehyde molar ration, can be successfully used in a molding composition when used with crystalline phenolic compounds. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a *prima facie* case of obviousness requires that all elements of the invention be disclosed in the prior art, that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify or combine the references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *Amgen v. Chugai Pharmaceutical Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996). *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A 1970).

It is respectfully submitted that the Examiner has not shown the use of a spray dried resole resin with a crystalline phenolic compound for use as a molding component, much less the motivation for one skilled in the art to make the proposed combination of the teaching of the references and therefore has not met the burden of establishing a *prima facie* case of obviousness.

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It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein are in condition for allowance. Accordingly, reconsideration and allowance is respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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Date: June 14, 2004
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